

**REMARKS**

Claims 18-20 have been amended.

Claims 18-24 are all the claims pending in the application.

Claims 18-24 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Yokouchi et al., JP-A-9-169989 in view of Heimann et al., U.S. Patent No. 6,010,984 (“Heimann”).

The Examiner maintains the position that a person having ordinary skill in the art, armed with the disclosure of Heimann, would have found it obvious to add a pH adjustor to the grease composition of Yokouchi in order to adjust the pH to “about 7 to about 14,” and to tailor the grease to be compatible with the metal surface which contacts the grease, with a reasonable expectation of enhancing corrosion resistance.

Applicants traverse the rejection for the following reasons.

To establish *prima facie* obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art must teach or suggest all the claim limitations.

Applicants’ claims 18, 19 and 20 include a grease composition comprising “a pH adjustor for adjusting the hydrogen exponent pH of the grease composition within a range of 7 to 13, the pH adjustor is selected from an amine compound, an organic acid metal salt and an alkaline inorganic substance, the amine compound is selected from primary to tertiary amines each

hydrocarbon group of which has 1 to 24 carbon atoms, the organic acid metal salt has a hydrocarbon chain containing 6 to 24 carbon atoms, the alkaline inorganic substance is selected from a metal hydroxide, a metal carbonate, and a metal borate.”

Yokouchi teaches a rolling bearing which is sealed with a grease composition comprising a base oil, a urea thickener, and an inorganic filler having an average particle size of not greater than 2  $\mu\text{m}$  (abstract). Yokouchi discloses that the grease composition may further include suitable additives such as amine antioxidants and dithiophosphate compounds (col. 6, lines 35-49). While Yokouchi teaches a grease composition which further includes additives, such as amines, Yokouchi does not teach or suggest a grease composition comprising a pH adjustor, as recited in Applicants’ claims 18-20. The Examiner acknowledges this deficiency in Yokouchi on page 3 of the Non-final Office Action dated January 17, 2007.

The Examiner turns to Heimann to supplement the deficiency in Yokouchi.

Heimann teaches grease compositions that include a silica/silicate mixture that can impart a high pH and corrosion resistant properties to the grease (abstract). The pH of the grease composition disclosed in Heimann can be tailored to be compatible with the metal surface which is contacted with the grease or gel (col. 5, lines 59-60). Heimann teaches that the grease composition typically has a pH that ranges from about 7 to about 14 (col. 6, lines 2-3). In Heimann, the pH adjuster may be an alkali silicate, such as sodium silicate or calcium silicate (col. 5, lines 63-65).

On the contrary, as claimed in amended claims 18-20, the pH adjuster is not an alkali silicate, but instead the pH adjustor is selected from an amine compound, an organic acid metal salt and an alkaline inorganic substance, the alkaline inorganic substance being selected from a

metal hydroxide, a metal carbonate and a metal borate *to the exclusion of the metal silicate of Heimann*. Thus, although the Examiner uses Heimann to supplement the deficiencies of Yokouchi, it is clear that Heimann does not teach or suggest a pH adjuster as recited in Applicants' claims 18-20.

In view of the foregoing, it is clear that Yokouchi and Heimann fail to teach or suggest all the elements of Applicants' claims 18-20. Accordingly, claims 18-20 would not have been obvious based on Yokouchi and Heimann.

Claims 21-24 depend from claims 18-20 and thus these claims would not have been obvious based on Yokouchi and Heimann for at least the same reasons that claims 18-20 would not have been obvious over those references.

In view of the above, reconsideration and withdrawal of the rejection are respectfully requested.

Claims 18-24 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Naka et al., U.S. Patent No. 5,728,659 ("Naka") in view of Heimann et al., U.S. Patent No. 6,010,984 ("Heimann") and Yokouchi et al., JP-A-90169989 ("Yokouchi").

The Examiner maintains the position that it would have been obvious to add a pH adjuster as taught by Heimann to the grease composition of Naka for the same reasons as noted above.

Applicants traverse the rejection for the following reasons.

As discussed above, to establish *prima facie* obviousness, the prior art must teach or suggest all the claim limitations.

Naka teaches a grease composition for a rolling bearing comprising 10 to 60 parts by weight of a mixture of diurea compounds as a thickener based on 100 parts by weight of a base oil (col. 2, lines 13-44). The grease composition in Naka may optionally contain publicly known additives in order to further improve properties as set forth in col. 7, lines 31-42. Naka discloses that suitable additives include metal soaps, amine antioxidants and dithiophosphate compounds which act as extreme pressure agents and antioxidants (col. 7, lines 31-43). While Naka teaches a grease composition which further includes additives, such as amines or dithiophosphate compounds, Naka does not teach or suggest a grease composition comprising a pH adjuster, as recited in Applicants' claims 18-20. The Examiner acknowledges this deficiency in Naka on page 6 of the Non-final Office Action dated January 17, 2007.

As discussed above, while Yokouchi teaches a grease composition which further includes additives, such as amines, Yokouchi does not teach or suggest a grease composition comprising a pH adjuster, as recited in Applicants' claims 18-20. The Examiner acknowledges this deficiency in Yokouchi on page 3 of the Non-final Office Action dated January 17, 2007.

The Examiner turns to Heimann to supplement the deficiency in Naka and Yokouchi. As discussed above with respect to the previous rejection, Heimann teaches a pH adjuster in which the pH adjuster may be an alkali silicate, such as sodium silicate or calcium silicate (col. 5, lines 63-65), which metal silicate has been excluded from the scope of the claimed pH adjuster.

Thus, although the Examiner uses Heimann to supplement the deficiencies of Naka and Yokouchi, it is clear that Heimann does not teach or suggest a pH adjuster as recited in Applicants' claims 18-20.

In view of the foregoing, it is clear that Naka, Yokouchi and Heimann fail to teach or suggest all the elements of Applicants' claims 18-20. Accordingly, claims 18-20 would not have been obvious based on Naka, Yokouchi and Heimann.

Claims 21-24 depend from claims 18-20 and thus these claims would not have been obvious based on Yokouchi and Heimann for at least the same reasons that claims 18-20 would not have been obvious over those references.


In view of the above, reconsideration and withdrawal of the rejection are respectfully requested.

Withdrawal of all rejections and the allowance of claims 18-24 is earnestly solicited.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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